

Developing an experimental fishery on Vanderkloof Dam



agriculture, land reform
& rural development

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agriculture, land reform & rural development
NORTHERN CAPE PROVINCE
REPUBLIC OF SOUTH AFRICA



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**RURAL
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The importance of inland fisheries in Africa

- Annual harvest of 1.5 million tons
- Inland fisheries contributes 54% of total fish production
- For 1/3 of African countries, inland fisheries contributes 90% of fish production



Case study: Malawi's fishery

- Annual production of 50 000 tons per annum
- Primary sector employs 65 000
- Secondary sector employs 350 000
- 90% of fishers are artisanal



Why are our dams un-fished?



Dam in SA



Lake Malawi

In the beginning

- There are over 3500 dams in SA
- Dams primarily for human and agriculture
- Fish stocked by Nature Conservation primarily for **recreational anglers**
- In many instances rural communities access to dams was restricted



Rural communities have recently recognised fishing



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Overall Economic Impact R18,8 Billion

- Deep Sea R6,8 bill
- Surf/Shore R2,5 bill
- Light Boat R285 mill
- Fresh Water Bank R3,9 bill
- Fly-fishing R3,5 bill
- Artificial Lure R267 mill
- Bass R1,2 bill
- Carp R260 mil
- Match Angling R22 mill
- Underwater R52 mill

**But how much
of this economy
filters down to
the rural
economy?**

Fishery potential of SA dams

- Most dams in SA have been stocked with fish.
- Dams are largely un-fished
- Most dams in rural areas, therefore significant potential for improving rural livelihoods and economic development



Results of a fishery survey in NW Province



TABLE 4

Estimated annual yield in tons, based on the Marshall and Maes (1994) morpho-edaphic index, estimated total value of the fish assuming a price of R6/kg and the total number of people that could be employed at minimum rural wage of R 10 440 per year in 10 dams of the North West Province.

Dam	Yield (t)	Value (R '000s)	Employment (No. of persons)
Bospoort	88	531	51
Koster	23	140	13
Lindleyspoort	15	90	9
Lotlamoreng	12	72	7
Madikwe	60	358	34
Molatedi	45	272	26
Ngotwane	54	326	31
Roodekopjes	292	1 750	168
Taung	42	253	24
Vaalkop	210	1 258	121
Total	842	5 051	484

Fishery research on Vanderkloof Dam

- Alanson et al (1983) established that there was potential for a 150 – 250 t fishery
- Tomasson et al (1985) “Exploitation of yellowfish might lead to better use of resources” ... “a commercial fishery should not be seen as a threat, but rather as a benefit to recreational fisheries since it could be used to promote good angling.”
- 2013 Rhodes University survey of dam

Survey in 2013

	Long lines	Gill nets	Rod and line	Total
Locations	6	6	5	17
Hours	393.5	254.5	8.5	656.5
Hooks /meters	150	358	10	518
Yellow (kg)	0.00	150.85	3.47	154.32
Capensis (kg)	0.00	35.45	0.29	35.74
Umbratus (kg)	0.00	8.65	0.00	8.65
Barbell (kg)	539.10	7.16	0.00	546.26
Total weight (kg)	539.10	202.11	3.76	744.97
Total Number	148	453	10	611
Ave Weight (kg)	4.65	0.62	0.65	1.98
Ave Size (mm)	796.22	388.64	428.30	537.72
CPUE (g/hr/hook)	46.22	17.03	206.93	18.53

Petrusville



Keurtjieskloof



Fishery base



Van der Kloof

Van Der Kloof

Vanderkloof Dam, South Africa

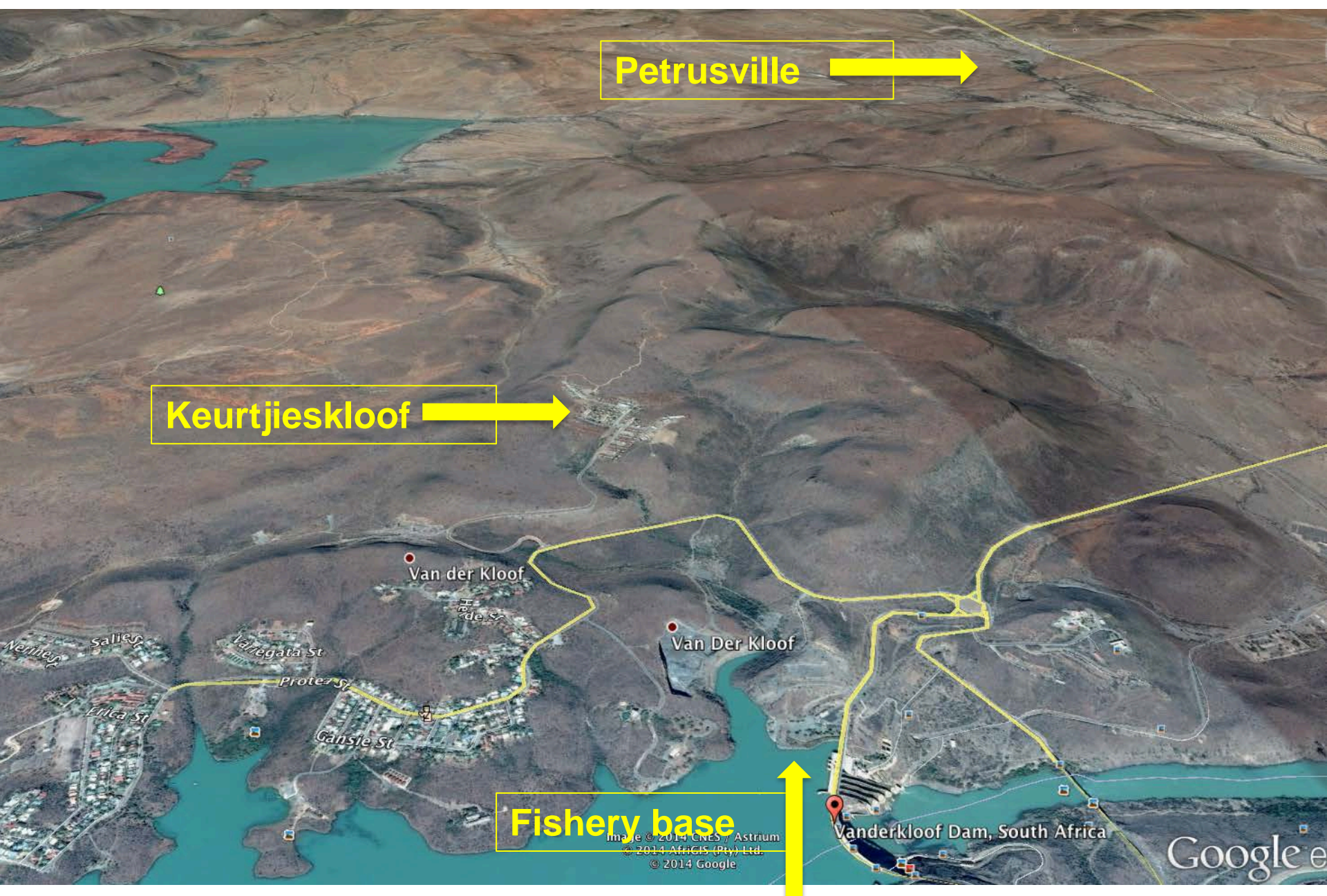


Image © 2014 CNES / Astrium
© 2014 AfriGIS (Pty) Ltd.
© 2014 Google

Google e

Set up a small scale community based fishery

- The idea was to empower fishers in Vanderkloof and Petrusville to become small scale fishers
- From the onset the project supported the existence of the recreational sector
- The dam is big enough for both sectors



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Marketing

- Local marketing – setting up a spaza shop
- Processing
- When fishery is developed selling to government markets

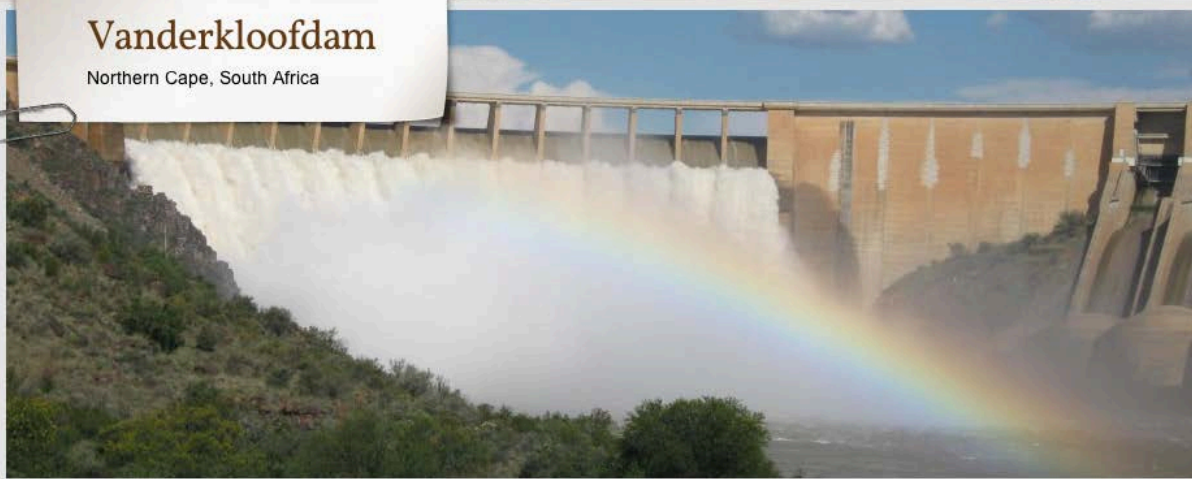


The campaign

[About Vanderkloofdam](#) [Historic Journal](#) [Fishing](#) [Restaurants](#) [Attractions](#) [Accommodation](#) [Contact Details](#)

Vanderkloofdam

Northern Cape, South Africa



« OLDER POSTS

Rolfontein Natuurreservaat – Wat om te verwag

Posted on 2014/10/19 by [Vanderkloofdam.co.za](#)

Nou dat [Rolfontein Natuurreservaat](#) weer oop is vir die publiek wonder baie mense wat kan hulle nou verwag na al die sogenaamde opgraderings. Lees gerus verder vir 'n vinnige "review"...

Die tarief van R30 per persoon is heel billik en die ingaan proses redelik professioneel en vinnig. Die paaie is in goeie kondisie en enige normale voertuig wat tot in Vanderkloof kon ry sal die reservaat se grondpaaie kan aanvat. Daar is blykbaar 'n hele paar renosters maar aangesien jy nie die hele reservaat kan dek as lid van die publiek nie is jou kans om hulle self te sien nie gewaarborg nie. Daar is egter verskeie ander diere te sien en 'n paar interessante plante. Huidiglik is die hele Karoo maar droog so tensy jy verwag hulle het die hele reservaat onder 'n groot spilpunt gebou sal dit jou nie verbaas dat die reservaat ook maar nog droog is na die winter nie.

Petition to save the largies!

Please sign the petition to save the largemouth yellowfish in Vanderkloof Dam


[Sign Now](#)

444 signatures

What people say

- Johan on Rhino Manor Self Catering Units
- Venessa on Rhino Manor Self Catering Units
- Paula Tiller on Rolfontein Nature Reserve
- Derrick Snyman on Rhino Manor Self Catering Units


Is the largemouth yellowfish endangered?


2014.2

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[Home](#) > [Labeobarbus kimberleyensis \(Largemouth Yellowfish, Vaal-orange Largemouth Yellowfish\)](#)



Labeobarbus kimberleyensis



- Summary
- Classification Schemes
- Images & External Links
- Bibliography
- Full Account

Taxonomy [top]

Kingdom	Phylum	Class	Order	Family
ANIMALIA	CHORDATA	ACTINOPTERYGII	CYPRINIFORMES	CYPRINIDAE

Scientific Name:	<i>Labeobarbus kimberleyensis</i>
Species Authority:	(Gilchrist & Thompson, 1913)
Common Name(s):	English – Largemouth Yellowfish, Vaal-orange Largemouth Yellowfish
Synonym(s):	<i>Barbus kimberleyensis</i> Gilchrist & Thompson, 1913
Taxonomic Notes:	This species cannot be distinguished from <i>Labeobarbus aeneus</i> with mitochondrial DNA, but seems to be morphologically distinct. However, further work is needed to assess whether hybridization is occurring between these two species.

- [Taxonomy](#)
- [Assessment Information](#)
- [Geographic Range](#)
- [Population](#)
- [Habitat and Ecology](#)
- [Threats](#)
- [Conservation Actions](#)

[View Printer Friendly](#)

Assessment Information [top]

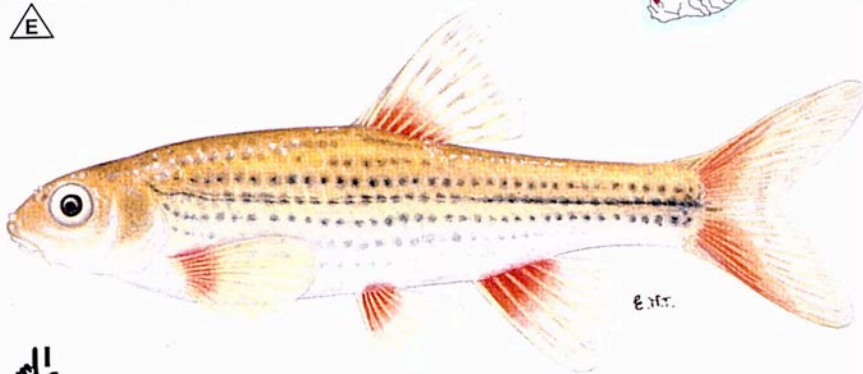
Red List Category	Near Threatened ver 3.1
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FIERY REDFIN

Vurige rooivlerkie

Pseudobarbus phlegethon (Barnard, 1938)



Description D iii, 7; A iii, 5. Lateral line scales 29–37 (35). Body oblong, mouth with one pair of short barbels. Tubercles of breeding males poorly developed but red patches on fins are brilliant. Silvery golden with scattered black spots and blotches, fins with dark bands across rays. The smallest and possibly prettiest redfin minnow. Attains 71 mm SL.

Distribution Tributaries of the Clanwilliam Olifants River, Western Cape.

Biology and Ecology Lives in pools and riffles of clear flowing rocky bottomed streams. Feeds off detritus and small bottom-living insects. Breeds in summer.

Conservation Endangered. Habitat destruction and introduced bass have severely depleted populations.

VAAL-ORANGE LARGEMOUTH YELLOWFISH

Vaal-Oranjerivier grootbek-geelvis

Labeobarbus kimberleyensis
(Gilchrist & Thompson, 1913)



Images from, A Complete Guide to the Freshwater Fishes of Southern Africa. Paul Skelton

TECHNICAL REPORT ON THE STATE OF YELLOWFISHES IN SOUTH AFRICA 2007

Report to the
Water Research Commission
by
The Yellowfish Working Group

Edited by

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¹CapeNature

²South African Institute of Aquatic Biodiversity

³Federation of South African Flyfishers

WRC Report No. KV 212/08
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August 2008

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Petition to save the largies!



Posted by Vanderkloofdam.co.za on 2014/05/23

Vanderkloof largies under threat

YOU CAN SIGN THE PETITION AT THE END OF THIS ARTICLE

Just when the newly discovered largemouth yellowfish gem was made, Vanderkloof Dam, the existence of our largest freshwater sportfish, fondly called "largies" are now under threat in this dam. Largemouth yellowfish numbers has recently plummeted due to waterpollution, overfishing and competition with alien fish species across it's natural distribution range

In Vanderkloof Dam, largemouths have found one of it's last safe heavens. The reason being that fishing pressure is low in this rural area far away from city centers, and fishing is done by conservation minded anglers that support catch and release principles. Good water quality and abundance of structure also helps with largemouth numbers.

Petition to save the largies!

Please sign the petition to save the largemouth yellowfish in Vanderkloof Dam

Sign Now

444 signatures

What people say

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- Venessa on Rhino Manor Self Catering Units
- Paula Tiller on Rolfontein Nature Reserve
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L. kimberleyensis has successfully colonised a number of man-made dams, among these are Gariep and Van Der Kloof Dams on the Orange River and the Vaal and Bloemhof Dams on the Vaal River. They are however not common in these dams.

Labeobarbus kimberleyensis is vulnerable to angling pressure for several reasons. Firstly, it is not as plentiful as *L. aeneus* and seems to have more specific habitat requirements (the home range is mainstream rivers)

TECHNICAL REPORT ON THE STATE OF YELLOWFISHES IN SOUTH AFRICA 2007. BY THE YELLOWFISH WORKING GROUP. WRC REPORT No KV 212/08



RURAL FISHERIES PROGRAMME

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Vanderkloof largies **under threat**

have been passed in all the provinces where both these species occur, to protect both indigenous species. Most provinces ordinances states that largemouth yellowfish are a catch and release specie only, and that smallmouth only 2-3 fish can be taken by angler allowing they are longer than 30-45cm in length. One of the reasons given by the "Rural Fisheries Program" is that smallmouth yellowfish have a "negative" influence on other species in the dam. This statement is very hard to believe as smallmouth are indigenous to the dam and river, and most likely the only species that might be negatively influenced are the alien species also found in the dam namely carp and black bass, which numbers are lower than yellowfish it seems. The whole idea of netting this dam and it's yellowfish goes strongly against the new NE:MBA regulations that protect indigenous fauna and flora against alien species. Should netting occur in the dam, yellowfish numbers will fall. and the void left will most likely be filled by the alien

FIRST NAME *

LAST NAME *

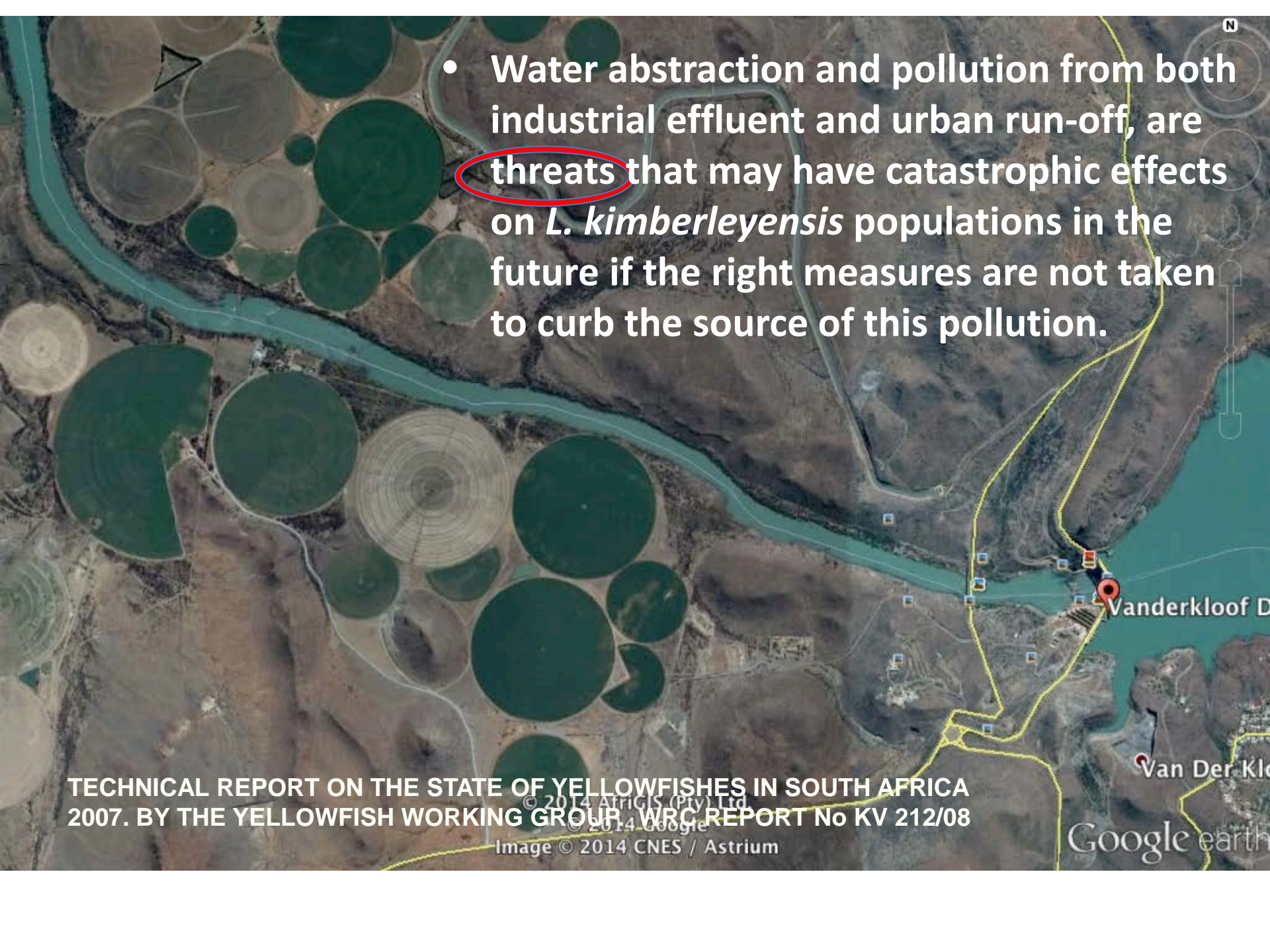
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- 
- A satellite map showing a river system with numerous circular wetlands. A dam is visible on the right side of the river, with a red location pin and the label 'Vanderkloof D'. The river flows from the top left towards the bottom right. The wetlands are circular and vary in color from green to brown. The surrounding land is brown and appears to be a dry or semi-arid environment. A yellow line outlines a specific area on the right side of the river, possibly a dam or a specific project area. A north arrow is visible in the top right corner.
- Water abstraction and pollution from both industrial effluent and urban run-off, are **threats** that may have catastrophic effects on *L. kimberleyensis* populations in the future if the right measures are not taken to curb the source of this pollution.

TECHNICAL REPORT ON THE STATE OF YELLOWFISHES IN SOUTH AFRICA
2007. BY THE YELLOWFISH WORKING GROUP, WRC REPORT No KV 212/08

Image © 2014 CNES / Astrium

Google earth

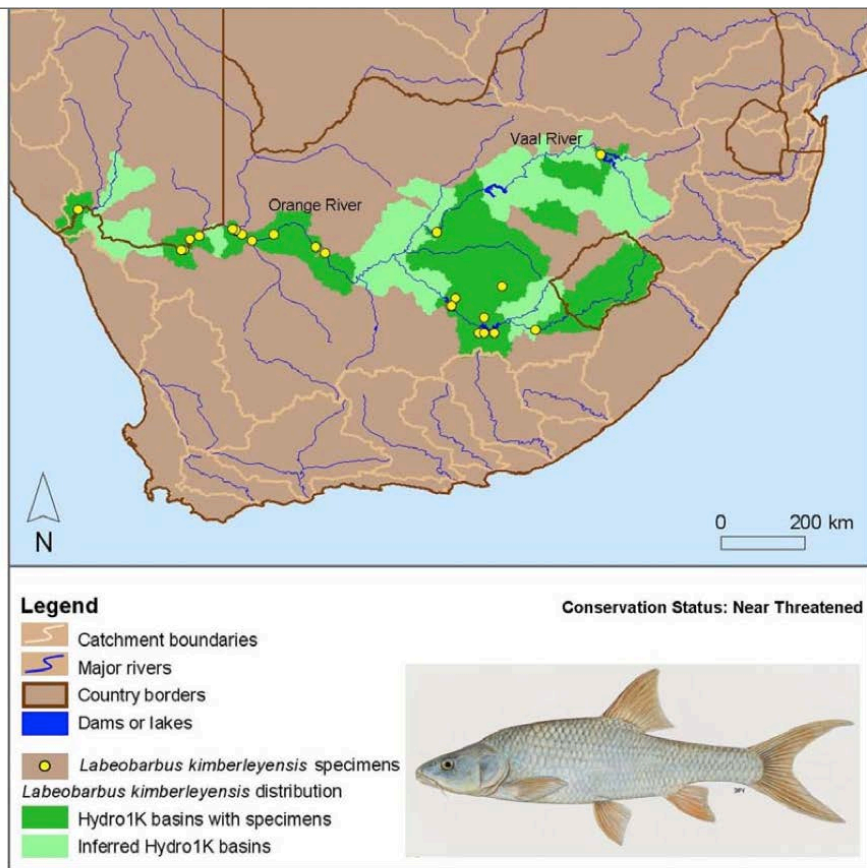


Figure 1: Distribution of *Labeobarbus kimberleyensis* based on voucher records (map by Willem Coetzler, SAIAB).

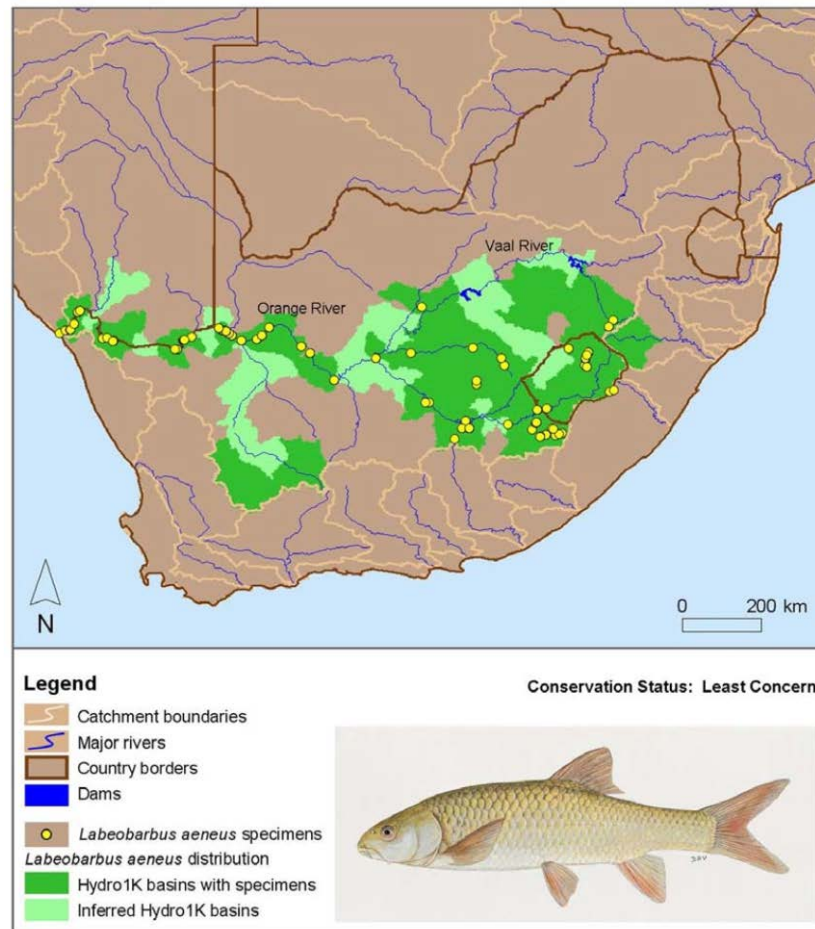


Figure 1: Distribution of *L. aeneus* based on voucher records (prepared by Willem Coetzler, SAIAB).

Current status of habitat

Recap

The campaign	The facts
Largemouth are endangered	Under IUCN they are classed as near threatened
Dam is a last sanctuary for the largemouth	Main habitat is in the rivers
The fishery is a threat to the largemouth populations	Water abstraction from the rivers & pollutions are the main threats

Developing an experimental fishery

An experimental fishery allows for modifications to be made to the fishery should there be need

Step 1: Fishery Management Plan Team

Name	Organisation	Email
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	DAFF	
	DAFF	
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Mr Sandile Dick	Renosterberg Municipality	sandile.dick@yahoo.com
	Small Scale fishery Rep	
	Recreational fishery Rep	

Developing a Fishery Management Plan (FMP)

The primary objectives of the FMP is to work out the details / operations of the fishery:

1. Selection of the fishers
2. Fishing methods (mesh sizes, number of nets, catches...)
3. Fishing zones
4. Managing the fishery (record keeping)
5. Value chain / marketing

From experimental to small scale fishery (SSF)

The transition

- After 2-4 years the transition from experimental to SSF will be made.
- This will be guided by the results of the experimental fishery

Multi-user fishery: learning from the marine environment

- In the marine environment, the commercial, small scale, and recreational fisheries co-exist
- Each sector has its regulations as to what it can catch, the quantity and time.



Government Gazette

No. 10 of 2004: National Environmental Management: Biodiversity Act, 2004.

Application of other biodiversity legislation

6. (1) This Act must be read with any applicable provisions of the National Environmental Management Act.

(2) Chapter 4 of the National Environmental Management Act applies to the resolution of conflicts arising from the implementation of this Act.

National environmental management principles

Organs that implement legislation applicable to biodiversity, must—

- (a)* manage, conserve and sustain South Africa's biodiversity and its components and genetic resources; and
- (b)* implement this Act to achieve the progressive realisation of those rights.

CONSTITUTION OF THE REPUBLIC OF SOUTH AFRICA, 1996

CHAPTER 1 FOUNDING PROVISIONS

1. Republic of South Africa.—The Republic of South Africa is one, sovereign, democratic state founded on the following values:

(a)

Human dignity, the achievement of equality and the advancement of human rights and freedoms.

24. Environment.—Everyone has the right—

secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

152. Objects of local government.—(1) The objects of local government are—

(c)

to promote social and economic development;

FAQ

Question	Answer
Is the fishery sustainable?	It will start as an experimental fishery and the results will guide us
Is the populations of the largemouth yellowfish in danger?	The main populations of the fish is in the rivers & the results of the experimental fishery will guide us
Is an EIA required	In effect the experimental fishery is the EIA
Will there be conflict between the users of the dam?	Possibly: however this should not stop the fishery. The role of gov is to manage this process
Is the proposed experimental fishery serve the greater good of the community?	Yes
Do we support the recreational fishery and plan to address their issues?	Yes
Do we believe that both sectors can co-exist?	Yes
Is there need for further research	Yes, hence the experimental fishery